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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/415,018	10/07/1999	ARNAUD PEDENON	21891.02300	4199

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EXAMINER

FERRIS III, FRED O

ART UNIT PAPER NUMBER

2128

DATE MAILED: 03/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/415,018	Applicant(s) PEDENON, ARNAUD	
	Examiner Fred Ferris	Art Unit 2128	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-16 and 18-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15,16 and 18-28 is/are allowed.
- 6) ☒ Claim(s) 1,2,4-14,29 and 30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 7 October 1999 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. *A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 20 May 2003 has been entered. Claims 1, 2, 4-16, 18-30 are currently pending in this application. Claims 1, 2, 4-7, 8-14, 29, and 30 now stand rejected based on new grounds for rejection. Claims 15, 16, and 18-28 have now been allowed over the prior art of record.*

Response to Arguments

2. *Applicant's arguments filed 30 November 2005 have been fully considered.*

Regarding applicant's response to 102(e) rejections: *The examiner withdraws the 102(e) rejection in view of applicant's amendment to independent claims 1 and 15 and arguments submitted 30 November 2005. However, claims 1, 2, 4-7, 8-13, 29, and 30 now stand rejected based on new grounds for rejection. (See below)*

The previous indication of allowable subject matter relating to claims 8-14 is now withdrawn in view of new 35 USC 101 cited below. However, the subject matter disclosed may be rendered allowable if issues relating to the new 101 rejections can be resolved.

Drawings

3. *This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.*

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. ***Claims 1, 2, 4-7, 8-13, and 29 are rejected under 35 U.S.C. 101 because the claimed invention is drawn to non-statutory subject matter.***

Per independent claims 1 and 8: *The Examiner submits that, in view of the language of the claims, method claims 1 and 8 do not appear to recite a tangible result. In both cases the result appears to merely be calculated or simulated numerical representation of the recited method steps. The examiner submits that in order to establish a practical application, there must be either a physical transformation, or a useful, concrete and tangible result. Data transformation is not the same as a physical transformation. In this instance, there does not appear to be a tangible result. Here, the result of transforming the candidate cell merely requires dividing the polynomial representation of the candidate cell with the polynomial representation of the requested cell. This is simply a mathematical computation resulting in an un-stored and un-applied number, not a physical transformation. Transforming the cell, in this case, is a thought or computation, and not in and of itself a tangible result. It is not until the transformation*

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of the cell is applied in a meaningful way that it has real world value and becomes a tangible result.

MPEP 2106 recites the following:

"A. Identify and Understand Any Practical Application Asserted for the Invention
The claimed invention as a whole must accomplish a practical application. That is, it must produce a "useful, concrete and **tangible result**." *State Street*, 149 F.3d at 1373, 47 USPQ2d at 1601-02. The purpose of this requirement is to limit patent protection to inventions that possess a certain level of **"real world" value**, as opposed to subject matter that represents nothing more than an idea or concept, or is simply a starting point for future investigation or research (*Brenner v. Manson*, 383 U.S. 519, 528-36, 148 USPQ 689, 693-96); *In re Ziegler*, 992, F.2d 1197, 1200-03, 26 USPQ2d 1600, 1603-06 (Fed. Cir. 1993)). Accordingly, a complete disclosure should contain some indication of the practical application for the claimed invention, i.e., why the applicant believes the claimed invention is useful.

Apart from the utility requirement of 35 U.S.C. 101, usefulness under the patent eligibility standard requires significant functionality to be present to satisfy the useful result aspect of the practical application requirement. See *Arrhythmia*, 958 F.2d at 1057, 22 USPQ2d at 1036. Merely claiming nonfunctional descriptive material stored in a computer-readable medium does not make the invention eligible for patenting. For example, a claim directed to a word processing file stored on a disk may satisfy the utility requirement of 35 U.S.C. 101 since the information stored may have some "real world" value. However, the mere fact that the claim may satisfy the utility requirement of 35 U.S.C. 101 does not mean that a useful result is achieved under the practical application requirement. The claimed invention as a whole must produce a "useful, concrete and tangible" result to have a practical application.

Although the courts have yet to define the terms useful, concrete, and tangible in the context of the practical application requirement for purposes of these guidelines, the following examples illustrate claimed inventions that have a practical application because they produce useful, concrete, and tangible result:

- Claims drawn to a long-distance telephone billing process containing mathematical algorithms were held to be directed to patentable subject matter because "the claimed process applies the Boolean principle to produce a useful, concrete, **tangible result** without pre-empting other uses of the mathematical principle." *AT & T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352, 1358, 50 USPQ2d 1447, 1452 (Fed. Cir. 1999);
- "[T]ransformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces a useful, concrete and tangible result' -- a final share price momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades." *State Street*, 149 F.3d at 1373, 47 USPQ2d at 1601; and
- Claims drawn to a rasterizer for converting discrete waveform data samples into anti-aliased pixel illumination intensity data to be displayed on a display means were held to be directed to patentable subject matter since the claims defined "a specific machine to produce a useful, concrete, and **tangible result**." *In re Alappat*, 33 F.3d 1526, 1544, 31 USPQ2d 1545, 1557 (Fed. Cir. 1994)."

In this case, independent claims 1 and 8 are not tangible since the result is merely a calculated numerical representation that is not directly applied to accomplish the intended "inferring of a requested cell" in the "generation of a netlist". Dependent claims 2, 4-7, 9-13, and 29 inherit the defects of the claims from which they depend.

Allowable Subject Matter

6. *Claims 15, 16 and 18-28 are allowed.*

The following is an examiner's statement of reasons for allowance:

Independent claims 15 and 22 use "means for" language and are given deference in view of In re Donaldson and interpreted in view of 35 U.S.C. § 112 paragraph 6. The "means for" language and the limitations related thereto of independent claims 15 and 22 are interpreted within the scope of enablement as provided within the relative embodiment provided within applicant's specification. Specifically, the means for representing, determining, and transforming candidates cells is interpreted as disclosed in applicant's specification on pages 10-15 and in Figures 4-8. The means for providing a rule, and setting/adding multinoms is interpreted as disclosed in applicant's specification on pages 10-15 and in Figures 4-8, and 11.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

7. *The prior art made of record and not relied upon is considered pertinent to applicant's disclosure, careful consideration should be given prior to applicant's response to this Office Action.*


U.S. Patent 6,415,425 issued to Chaudhary et al teaches mathematical cell representation in netlists.

U.S. Patent 6,088,519 issued to Koford teaches mathematical cell representation.

"Formal Verification In hardware Design" C. Kern, ACM 1084-4309/99/0400, 1999, teaches mathematical cell representation in netlists.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred Ferris whose telephone number is 571-272-3778 and whose normal working hours are 8:30am to 5:00pm Monday to Friday. Any inquiry of a general nature relating to the status of this application should be directed to the group receptionist whose telephone number is 571-272-3700. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamini Shah can be reached at 571-272-2279. The Official Fax Number is: (703) 872-9306

Fred Ferris, Primary Examiner
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March 10, 2006


Fred Ferris
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